

REMARKS / ARGUMENTS

1. Claim Rejections – 35 U.S.C. § 103(a) - 1-4, 6-20, 22-27 and 29-34

The Examiner has rejected claims 1-4, 6-20, 22-27 and 29-34 under 35 U.S.C. § 103(a) as being unpatentable over Swales et al. (U.S. Patent No. 6,233,626) and further in view of Montijo (U.S. Patent No. 6,052,107). Applicants respectfully traverse this rejection. For brevity, the bases for the rejection of the independent claims are traversed in detail on the understanding that the dependent claims are also patentably distinct over the cited references as they depend directly from their respective independent claim. Nevertheless, the dependent claims include additional features that, in combination with those of their respective independent claim, provide further, separate, and independent bases for patentability.

Briefly stated, the claimed invention recites a device controller that (1) interfaces between one or more peripheral devices and a non-true real time computer (having a non-true real time operating system and a non-true real time-enabled circuit board) and (2) implements true real time control over the peripheral devices. The Swales et al. reference only mentions the term “real time” once in the entire patent (Col. 3, ll. 15-18), where it states that the invention (i.e., a communication adapter) allows “communicating with industrial sensor and actuator devices” without requiring “specialized real time field bus components.” See Col. 3, ll. 15-18. Thus, the Swales et al. reference discloses a communications adaptor, not a true real time controller. Referring to independent claim 1, the claimed invention recites both a communication interface component and a controller component. While one might contend that the Swales et al. reference discloses a communication component, it clearly does not teach, suggest, or disclose a controller component (that implements true real time control over the peripheral devices). The remaining independent claims (claims 12, 19, and 24) also recite a true real time controller, which is not disclosed by the communication adapter of the Swales et al. reference.

The Montijo reference does nothing to supply the missing elements of the Swales et al. reference. Indeed, the Montijo reference merely discloses a non-true real time computer having a non-true real time operating system and a non-true real time-enabled circuit board. This

disclosure is not relevant unless taught in combination with “a general purpose device controller employing asynchronous true real time peripheral device control.”

Thus, the Swales et al. reference and the Montijo reference, either alone or in combination, do not teach or suggest “a general purpose device controller employing asynchronous true real time peripheral device control” as recited in the claimed invention. Accordingly, Applicants respectfully submit that the 35 U.S.C. § 103(a) rejection of claims 1-4, 6-20, 22-27 and 29-34 as unpatentable over Swales *et al.* has been overcome.

Reply to Examiner's Comments

Respectfully, Applicants wish to clarify their previous arguments regarding time intervals. The statement in the Swales et al. patent that the Applicants were referencing in the previous response (which was repeated 11 times) was “the request message and the response message is limited to a length that is less than a TCP transaction length and/or a maximum transmission unit limit, or both....” These quotes are located at the following citations: (1) Abstract, ll. 12-16; (2) Abstract, ll. 28-32; (3) Col. 2, ll. 17-21; (4) Col. 2, ll. 33-37; (5) Col. 2, ll. 47-51; (6) Col. 4, ll. 17-20; (7) Col. 4, ll. 48-52; (8) Col. 4, ll. 61-65; (9) Col. 11, ll. 43-45; (10) Col. 12, ll. 15-18; (11) Col. 12, ll. 51-53. Continuing, the Examiner is correct that these intervals relate to a maximum length for request messages and response messages. Indeed, the Swales et al. reference states that its transaction protocol “*comprises a request message and response message pair, each of bounded length.*” Col. 5, ll. 1-2. However, since the Swales et al. reference clearly describes its performance transaction rate (Col. 9, ll. 38-62), these maximum request and response messages lengths can be readily converted to maximum request and response time periods.

New claims 35-38

News claims 35-38 each recite that the “facilitated interaction between the peripheral devices and the non-true real time computer comprise data transfers that are not bounded by length.” These claims are supported by the specification at Pg. 3, ll. 31-34, which states that the controller “allows for ‘interrupt,’ ‘bulk,’ and ‘isochronous’ data transfers.” See Pg. 3, ll. 31-34. As described above, the invention of the Swales et al. reference is clearly directed towards a communication adaptor that utilizes request and response messages that are of a bounded (or

maximum) length. As such, Applicants respectfully submit that claims 35-38 are patentable over the prior art references of record, in addition to the reasons stated with respect to claims 1-4, 6-20, 22-27 and 29-34.

2. Claim Rejections – 35 U.S.C. § 103(a) - 5, 21 and 28

The Examiner has also rejected claims 5, 21 and 28 under 35 U.S.C. § 103(a) as being unpatentable over Swales et al. and Montijo, and further in view of Evoy et al. (U.S. Patent No. 5,958,020). Applicants respectfully traverse this rejection. For brevity, only the bases for the rejection of the independent claims are traversed in detail on the understanding that the dependent claims are also patentably distinct over the cited references as they depend directly from their respective independent claim. Nevertheless, the dependent claims include additional features that, in combination with those of their respective independent claim, provide further, separate, and independent bases for patentability.

Claims 5, 21, and 28 are patentable for the reasons stated above in Section 1 with respect to independent claims 1, 19, and 24. The Evoy reference does nothing to supply the missing elements of the Swales et al. reference and the Montijo reference. Indeed, the Evoy reference merely discloses the use of USB as the default communications protocol. This teaching is irrelevant unless taught in combination with “a general purpose device controller employing asynchronous true real time peripheral device control.”

Thus, the Swales et al. reference, the Montijo reference, and the Evoy reference, either alone or in combination, do not teach or suggest “a general purpose device controller employing asynchronous true real time peripheral device control” as recited in the claimed invention. Accordingly, Applicants respectfully submit that the 35 U.S.C. § 103(a) rejection of claims 5, 21 and 28 as unpatentable over Swales et al. has been overcome.

CONCLUSION

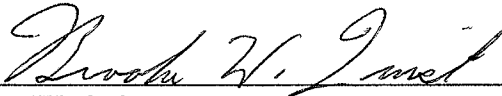
Applicants have made an earnest and *bona fide* effort to clarify the issues before the Examiner and to place this case in condition for allowance. Reconsideration and allowance of all of claims 1-34 is believed to be in order, and a timely Notice of Allowance to this effect is respectfully requested.

The Commissioner is hereby authorized to charge the fees indicated in the Fee Transmittal, any additional fee(s) or underpayment of fee(s) under 37 CFR 1.16 and 1.17, or to credit any overpayments, to Deposit Account No. 194293, Deposit Account Name STEPTOE & JOHNSON LLP.

Should the Examiner have any questions concerning the foregoing, the Examiner is invited to telephone the undersigned attorney at (310) 734-3200. The undersigned attorney can normally be reached Monday through Friday from about 9:00 AM to 6:00 PM Pacific Time.

Respectfully submitted,

Date: May 23, 2007



Brooke W. Quist
Reg. No. 45,030
STEPTOE & JOHNSON LLP
2121 Avenue of the Stars
Suite 900
Los Angeles, CA 90067
Tel 310.734.3200
Fax 310.734.3300